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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,535	12/06/2001	Jong-ryull Kim	1293.1286	4414

21171 7590 08/10/2004

STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
ORTIZ CRIADO, JORGE L	
ART UNIT	**PAPER NUMBER**
2655	5

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/004,535	KIM ET AL.	
	Examiner	Art Unit	
	Jorge L Ortiz-Criado	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-8 and 13-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Izumi et al. U.S. Patent No. 6,567,355.

Regarding claim 1, Izumi et al. a method of controlling the balance of a photodetector in an optical recording and/or reproducing apparatus having first and second light sources in a single module (see col. 19, lines 1-38; Figs. 19A, 19B, 23, 41) the method comprising:

directing light supplied from the first or second light source (See Figs. 19A, 19B, 23, 41, "photo detector" ref # 9,7002,) Band

transmitted through a holographic optical element (See Figs. 19A, 19B, 23, 41, ref # 30,7010,7012)

an optical path changing unit (See Figs. 19A, 19B, 23, 41, ref # 4,7003)

and an objective lens onto a disk corresponding to each light source (See Figs. 19A, 19B, 23, 41, ref # 6,7006) ,

transmitting the light reflected from the corresponding disk through the objective lens, and the optical path changing unit to the photodetector (See Figs. 19A, 19B, 23, 41)

moving the photodetector so that a center of a first spot received from said first light source by the photodetector is concentric with the center of the photodetector (See col. 20, lines 44-61; "the position of the detecting part is determined to correspond with the light of the first light source and its moved to a predetermined position with respect to the first light source"); and

moving the holographic optical element so that a center of a second received spot received from the second light source is concentric with the center of the photodetector (See col. 20, lines 1-38, col. 20 line 62 to col. 21 line15; col. 22, lines 50-67; col. 26, lines 29-40).

Regarding claims 2 and 6, Izumi et al. discloses wherein the moving of the holographic optical element comprises moving the holographic optical element in an optical axis direction to move the center of the second received spot (See col. 20, lines 1-38, col. 20 line 62 to col. 21 line15; col. 22, lines 50-67; col. 26, lines 29-40)

Regarding claim 3, Izumi et al. discloses wherein the moving of the holographic optical element comprises rotating the holographic optical element about an optical axis at a predetermined angle to move the center of the second received spot (See col. 20, lines 1-38, col. 20 line 62 to col. 21 line15; col. 22, lines 50-67; col. 26, lines 29-40)

Regarding claim 4, Izumi et al. discloses wherein the moving of the holographic optical element comprises rotating the holographic optical element about an optical axis at a predetermined angle to move the center of the second received spot (See col. 20, lines 1-38, col. 20 line 62 to col. 21 line15; col. 22, lines 50-67; col. 26, lines 29-40)

Regarding claim 5, Izumi et al. discloses a method of controlling the balance of a photodetector in an optical recording and/or reproducing device having first and second light sources fixed in position relative to each other, the method comprising:

moving the photodetector so that first light from the first light source and reflected from a corresponding first optical disk is concentric with the photodetector (See col. 20, lines 44-61; "the position of the detecting part is determined to correspond with the light of the first light source and its moved to a predetermined position with respect to the first light source"); and

moving a holographic optical element, which does not affect an optical path of the first light, so that second light from the second light source and reflected from a corresponding second optical disk is concentric with the photodetector (See col. 20, lines 1-38, col. 20 line 62 to col. 21 line15; col. 22, lines 50-67; col. 26, lines 29-40)

Regarding claim 7, Izumi et al. discloses wherein the moving of the holographic optical element comprises rotating the holographic optical element about an optical axis at a predetermined angle to move the center of the second received spot (See col. 20, lines 1-38, col. 20 line 62 to col. 21 line15; col. 22, lines 50-67; col. 26, lines 29-40)

Regarding claim 8, Izumi et al. discloses moving the holographic optical element in an optical axis direction and rotating the holographic element about the optical axis so that the second light is concentric with the photodetector (See col. 20, lines 1-38, col. 20 line 62 to col. 21 line15; col. 22, lines 50-67; col. 26, lines 29-40)

Regarding claim 13, Izumi et al. discloses an optical recording and/or reproducing apparatus (see col. 19, lines 1-38; Figs. 19A, 19B, 23, 41) comprising:

first and second light sources fixed in position relative to each other;

a photodetector movable so that first light from the first light source and reflected from a corresponding first optical disk is concentric with the photodetector (See col. 20, lines 44-61; "the position of the detecting part is determined to correspond with the light of the first light source and its moved to a predetermined position with respect to the first light source"); and

a holographic optical element, which does not affect an optical path of the first light, movable so that second light from the second light source and reflected from a corresponding second optical disk is concentric with the photodetector (See col. 20, lines 1-38, col. 20 line 62 to col. 21 line15; col. 22, lines 50-67; col. 26, lines 29-40; Figs. 19A, 19B, 23, 41, ref # 30,7010,7012); and

an optical path changing unit directing the first and second light from the respective first and second light sources to the corresponding first and second disks, and directing the reflected first and second lights to the photodetector (See Figs. 19A, 19B, 23, 41, ref # 4,7003)

Regarding claim 14, Izumi et al. discloses wherein the holographic optical element moves in an optical axis direction so that the second light is concentric with the photodetector (See col. 20, lines 1-38, col. 20 line 62 to col. 21 line15; col. 22, lines 50-67; col. 26, lines 29-40)

Regarding claim 15, Izumi et al. discloses wherein the holographic optical element rotates about an optical axis so that the second light is concentric with the photodetector.

Regarding claim 16, Izumi et al. discloses wherein the holographic optical element moves in an optical axis direction and rotates about the optical axis so that the second light is concentric with the photodetector.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang U.S. Patent No. 6,043,911 in view of Izumi et al. U.S. Patent No. 6,567,355.

Regarding claim 9, Yang discloses an optical recording and reproducing apparatus, comprising:

an optical module having a first and a second light source to respectively emit first and second lights of different wavelengths (See col. 3, lines 1-27; Figs. 2, 4,5,6)

a holographic optical element to regulate positioning of one of the first and second lights emitted from said optical module (see col. 3, lines 44-48; Figs. 2,3,4,5,6, ref# 38);

an optical path changing unit to receive and change the path of incident light received from said holographic optical element (See Figs. 4,5,6, ref# 46);

an objective lens to receive incident light received from said optical path changing unit and focus the same on the optical recording medium (See Figs. 4,5,6, ref# 44); and

a photodetector to receive first and second light spots from the light reflected from the optical recording medium and transmitted through said objective lens and said optical path changing unit (See Figs. 4,5,6, ref# 42) ;

Yang further discloses wherein the holographic optical element passes the light of one of the first and second lights without change, but diffracts and corrects the progressive path of one of the first and second lights in order to match the path of the other one of the first and second lights and to progress along the same direction (See col. 3, line 44 to col. 4, line17; Figs. 2,3). Also as shown in Fig. 4, the first and second light spots from the light reflected from the optical recording medium and transmitted through said objective lens and said optical path changing unit, are received and converged and matched into the same photodetector surface area.

Yang discloses that in order to regulate positioning of one of the first and second lights emitted from said optical module and correct and match the progressive path of the second light beam, the holographic optical element position relative to one of the first and second lights emitted from said optical module are provided.

But, Yang does not expressly disclose control the balance of a photodetector wherein the holographic optical element is movable and wherein the photodetector is movable to regulate positioning of the other one of said first and second light spots

However, this feature is well known in the art as evidenced by Izumi et al., which discloses an apparatus to control the balance of a photodetector to increase the light reception efficiency from an optical recording medium and controlling the balance of a photodetector in an optical recording and/or reproducing apparatus having first and second light sources in a single module (see col. 19, lines 1-38; Figs. 19A, 19B, 23, 41)

moving the holographic optical element so that a center of one of said first and second light spots received from the second light source is concentric with the center of the photodetector (See col. 20, lines 1-38, col. 20 line 62 to col. 21 line15; col. 22, lines 50-67; col. 26, lines 29-40).

and wherein the photodetector is movable to regulate positioning of the other one of said first and second light spots (See col. 20, lines 44-61; "the position of the detecting part is determined to correspond with the light of the first light source and its moved to a predetermined position with respect to the first light source")

It would have been obvious to one with ordinary skill on the art at the time of the invention to include a movable holographic optical element and photodetector in order to regulate positioning so that a center of one of said first and second light spots received

from the second light source is concentric with the center of the photodetector, expanding the degree of freedom of designing the position of the light reception area of the photodetector and outputting correctly the focus error signal and the tracking error signal, as suggested teaches by Izumi et al.

Regarding claim 10, the combination of Yang with Izumi et al. shows wherein said holographic optical element is movable in an optical axis direction to move the one of said first and second light spots received by said photodetector so that the one light spot is concentric with said photodetector (See Izumi et al. col. 20, lines 1-38, col. 20 line 62 to col. 21 line15; col. 22, lines 50-67; col. 26, lines 29-40)

Regarding claim 11, the combination of Yang with Izumi et al. shows wherein said holographic optical element is rotatable about an optical axis at a predetermined angle to move the one of said first and second light spots received by said photodetector so that the one light spot is concentric with said photodetector (See Izumi et al. col. 20, lines 1-38, col. 20 line 62 to col. 21 line15; col. 22, lines 50-67; col. 26, lines 29-40)

Regarding claim 12, the combination of Yang with Izumi et al. would show a grating positioned between the holographic optical element and the optical path-changing unit (See Izumi et al. Figs. 19A, 19B, 23, 41, ref # 3,7009)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jorge L Ortiz-Criado whose telephone number is (703) 305-8323. The examiner can normally be reached on Mon.-Thu.(8:30 am - 6:00 pm),Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris H To can be reached on (703) 305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

W. R. YOUNG
PRIMARY EXAMINER

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